

WHAT IS CLAIMED IS:

1. An apparatus for unloading a gel from a tube, said apparatus comprising:
 - an electrophoresis gel slab having a longitudinal edge;
 - a guide member coupled to said longitudinal edge, said guide member having at least one inclined guiding surface for guiding a gel to said longitudinal edge of said gel slab;
 - a first support assembly for supporting at least one tube, said at least one tube having an axial passage, a first open end and a second open end, said first end of said tube being coupled to said first support;
 - a second support spaced from said first support;
 - a plunger having a first end coupled to said second support and a second end axially aligned with said axial passage of said at least one tube; and
 - a drive assembly for sliding said at least one tube onto said plunger to unload said gel from said second end of at least one tube onto said guiding surface of said guide member.
2. The apparatus of claim 1, wherein said guide member has two opposing inclined guiding surfaces converging toward said longitudinal edge of said gel slab.
3. The apparatus of claim 2, wherein said guide member has a longitudinal length at least equal to a length of said longitudinal edge of said gel slab.
4. The apparatus of claim 3, wherein said guiding surfaces have a non-stick, lubricious surface.

5. A guide assembly for guiding a gel having a longitudinal dimension into a space between first and second support plates of a second dimension electrophoresis gel cassette, said guide assembly comprising:

a first guide member having a top end and a bottom end, said bottom end being dimensioned to overlie a top end of said first support plate, said first guide member including an inclined surface extending between said top end and said bottom end; and

a second guide member having a top end and a bottom end, said bottom end being dimensioned to overlie a top end of said second support plate, said second guide member having a guiding surface extending between said top end and said bottom end, said first inclined surface of said first guide member and said guiding surface of said second guide member converging toward said space between said first and second support plates.

6. The guide assembly of claim 5, wherein said first guide member has a leg extending from said bottom end.

7. The guide assembly of claim 6, wherein said leg is spaced from a bottom edge of said inclined surface a distance substantially equal to a thickness of said first support plate.

8. The guide assembly of claim 6, wherein said second guide member includes a leg extending from said bottom end, said leg being spaced from a bottom edge of said second guide surface a distance substantially equal to the thickness of said second support plate.

9. The guide assembly of claim 8, comprising a support plate coupled to said first and second guide members for coupling said first and second guide members together.

10. The guide assembly of claim 8, wherein said support plate is coupled to a longitudinal end of said first and second guide members.

11. The guide assembly of claim 5, wherein said first guide member has a substantially triangular shape and wherein said second guide member has a substantially triangular shape.

12. The guide assembly of claim 5, wherein said first guide member is substantially parallel to said second guide member, and wherein said inclined surface of said first guide member and said guiding surface of said second guide member form a substantially V-shape trough for guiding said gel between said first and second support plates.

13. The guide assembly of claim 5, wherein said guiding surface of said second guide member is inclined with respect to a vertical axis of said second guide member.

14. The guide assembly of claim 5, wherein said first and second guide members are coupled together and spaced apart a distance substantially equal to a thickness of a second dimension electrophoresis gel between said support plates.

0944986-033101

15. The guide assembly of claim 14, wherein said bottom end of said first guide member includes a ledge portion, and said bottom end of said second guide member includes a ledge portion complementing a top end of said electrophoresis gel cassette.

16. An assembly for guiding a plurality of gels onto an edge of a respective second dimension electrophoresis gel, said assembly comprising:

a plurality of guide members arranged in a substantially parallel spaced-apart relation, each of said guide members having a body with a top end, a bottom end and a guiding surface extending between said bottom end and said top end, said bottom ends of said guide members being spaced apart a distance substantially equal to a space between adjacent second dimension electrophoresis gels.

17. The assembly of claim 16, wherein each of said guide members includes a first inclined surface defining said guiding surface, wherein said first inclined surface is inclined with respect to a vertical axis of said guide member.

18. The assembly of claim 17, wherein said first inclined surface of said guide members define a guiding surface to a respective second dimension electrophoresis gel.

19. The assembly of claim 16, further comprising a plurality of spaced apart second dimension electrophoresis gels oriented in a substantially vertical plane, each of said gels being supported between a first plate and a second plate.

20. The assembly of claim 19, further comprising a support tray supporting said second dimension electrophoresis gels in said spaced apart and vertical orientation.

21. The assembly of claim 20, wherein each of said guide members have a leg extending downwardly from said bottom end of said body, said leg having a width complementing a spacing between adjacent electrophoresis gels.

22. The assembly of claim 21, wherein said leg has a width less than a width of said bottom end of said body.

23. The assembly of claim 22, wherein said leg is spaced from opposite edges to define a first ledge and a second ledge, said first ledge and said second ledge having a width to overlie at least a portion of said first plate and said second plate, respectively.

24. The assembly of claim 23, wherein said first and second ledges have a width substantially equal to a thickness of said first plate and second plate, respectively.

25. The assembly of claim 16, further comprising a first support plate, each of said guide members being coupled to said support plate.

26. The assembly of claim 25, wherein each of said guide members have a longitudinal dimension with a first end and a second end, said first end being coupled to said first support plate.

27. The assembly of claim 26, further comprising a second support plate, wherein said second end of each of said guide members is coupled to said second support plate.

28. The assembly of claim 17, wherein each of said guide members have a second inclined surface converging with said first inclined surface to define an apex at said top end.

29. An assembly for loading a sample onto the end of a second dimension electrophoresis gel, said assembly comprising:
a plurality of second dimension electrophoresis gel cassettes supported in a spaced apart upright orientation, each of said cassettes having a top end for receiving said sample;
a guide assembly positioned on said top end of said gel cassettes, said guide assembly having a longitudinal length with guiding surfaces extending toward said top end of said cassettes for guiding said sample onto said top end of said cassettes; and
a supply device for supplying said sample along said longitudinal length of said guide assembly.

30. The assembly of claim 29, wherein said guide assembly comprises two opposing guiding surfaces having a longitudinal length complementing a length of said cassettes, and wherein said opposing guiding surfaces converge toward said top end of said cassettes.

31. The assembly of claim 30, wherein at least one of said guiding surfaces is oriented at an incline with respect to a vertical axis of said assembly.

32. The assembly of claim 30, wherein each of said guiding surfaces are inclined with respect to a vertical axis of said guide assembly and define a substantially V-shaped recess on said top end of said cassettes.

33. The assembly of claim 29, wherein said sample is an electrophoresis gel having a longitudinal dimension from a first dimension electrophoresis separation.

34. The assembly of claim 33, wherein said supply device is an unloading device for unloading said sample from a first dimension electrophoresis gel tube.

35. The assembly of claim 29, wherein said guide assembly includes a plurality of parallel, spaced apart guide members, each of said guide members having a side defining said guiding surfaces.

36. The assembly of claim 29, wherein said guide assembly includes a plurality of guide members having a body, said body forming said guiding surfaces, wherein said guiding surfaces are inclined with respect to a plane of said gel cassettes.

37. The assembly of claim 26, wherein said body has a substantially triangular shape.

38. The assembly of claim 37, wherein said body has a bottom end and a leg extending from said bottom end, said leg having a width complementing a spacing between adjacent gel cassettes.

39. The assembly of claim 38, wherein said leg is spaced from opposite side edges of said body.

40. The assembly of claim 37, wherein said body has a first bottom side edge and a second bottom side edge, said first bottom side edge being positioned at an opening at said top end of a first of said cassettes and said second bottom side edge being position at an opening at said top end of a second of said cassettes.

09942986-083104